



State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES

6 Hazen Drive, P.O. Box 95, Concord, NH 03302-0095
(603) 271-3406 FAX (603) 271-7894



January 14, 2004
Letter of Deficiency
DSP#04-003

Mr. Chris Countie
Pennichuck Water Works
4 Water Street
P.O. Box 448
Nashua, NH 03061-0448

RE: Merrimack Village Dam #156.01, Merrimack

Dear Mr. Countie:

The Department of Environmental Services, Dam Bureau (DES) consistently strives to enhance the safety of dams in New Hampshire through its dam safety program. One of the many instruments that play a part in reaching this goal is our inspection program. DES is forwarding this correspondence to you to advise you that in accordance with RSA 482:12 and Env-Wr 502.02, an inspection of the subject dam was conducted on October 21, 2003. During this visual inspection and/or file review, the following deficiencies were observed:

The dam cannot pass the 50-year storm event without overtopping the abutments of the dam:

2. A buildup of sediment, measured as 9 feet in some locations, has developed in front of the gate structure preventing operation of both the sluice gate and stoplog bay;
3. The discharge channel below the gate and stoplog bay has become inundated with vegetation;
4. An area of leakage was noted along the downstream left spillway training wall;
5. There were trees and shrubs on both the right and left abutment walls of the dam
6. There were areas of deteriorated concrete on the upstream lip of the spillway at the interface between the left abutment wall and spillway;

Sections of the spillway downstream face were examined at the far right end of the dam. Voids 2-inches deep were noted;

There were sections of the interior face of the left spillway training wall that were missing stonework and showed signs of related deterioration; and

9. 

DES believes that the above deficiencies can be corrected by performing the following items by the indicated schedule:

March 1, 2004:

1. Prepare and submit to the DES a written operations and maintenance procedure plan. The plan should describe the control of impoundment levels, monitoring and maintenance procedures, and identify emergency contact personnel. Refer to the enclosed guidelines;
2. Provide DES with a plan for increasing the discharge capacity of the dam or show that the dam is stable for overtopping;

June 1, 2004:

3. Remove the buildup of sediment, measuring 9 feet deep in some locations, that has developed in front of the gate structure preventing operation of both the sluice gate and stoplog bay;
4. Remove the vegetation from the discharge channel downstream of the gate and stoplog bay;
5. Remove the trees and shrubs growing from within 10 feet of both right and left abutment walls of the dam and from within 10 feet of the gate and stoplog bay section;

October 1, 2004:

6. Repair deteriorated concrete in the following areas:
 - a. On the upstream lip of the spillway at the interface between the left abutment wall and spillway;
 - b. On sections of the spillway downstream face at the far right end of the dam. Voids 2-inches deep were noted;
7. Repair missing and loose stonework and related deterioration of the interior face of the left spillway training wall;
8. Complete any repairs associated with item no. 2 above; and

On a continuing basis:

9. Monitor the area of leakage that was noted along the downstream left spillway training wall

DES is requesting that you complete and submit the attached "Intent to Complete Repairs" form, within 30 days of receipt of this letter, that will provide for correction of the identified deficiencies by the date(s) indicated above. Please call or write to our office if the repairs are completed ahead of the aforementioned schedule so that DES may schedule a follow-up inspection. Unless notified otherwise, DES will conduct the follow-up inspection on or after the date(s) indicated above. If you believe changes to the items of work or dates are necessary, please make the changes directly on the form and provide a brief explanation. Please call or write to our office if the repairs are completed before the aforementioned

Letter of Deficiency
Dam #156.01/DSP#04-003
January 14, 2004
pg. 3


schedule. We understand that you are considering dam removal at this site and that you have submitted a grant proposal, that is currently undergoing review, to conduct a feasibility study of the dam's removal. It is also our understanding that should this grant be awarded, you will work with the Town, the DES River Restoration Coordinator and other interested parties to gather the information necessary for the Town to reach a decision of whether or not to take ownership of the dam and address the deficiencies identified in this letter.

Please provide written notification to DES at the conclusion of the proposed feasibility study and indicate whether the option to remove the dam will be pursued by you, or that the Town is committed to taking ownership of the dam. If a decision is made to pursue removal, modification to this compliance schedule will be made. We have enclosed a self addressed stamped envelope for you to return this form.

Our intent in sending you this correspondence is to make you aware of items that DES believes warrant your attention to insure the continued safe operation of your dam. It is our hope that, through the submittal of the attached form and a commitment to keeping a well-maintained dam, you will voluntarily comply with the requested items of work. If we do not receive the intent form or a similarly adequate written reply, we will assume that you are in agreement with our findings and recommendations and DES will carry out follow-up inspections accordingly.

If you have any questions or comments regarding this Letter of Deficiency or would like to be present at future inspections, please contact me at 271-3406, or write to the Water Division at 29 Hazen Drive, P.O. Box 95, Concord, NH 03302-0095.

Sincerely,


COPY
Grace E. Levergood, P.E.
Dam Safety Engineer

Attachments Guideline for an O&M plan, DB8, DB13

cc: Gretchen Rule✓

Town of Merrimack

Stephanie Lindloff, River Restoration Coordinator, NHDES

Certified # 7000 1670 0000 0586 2749

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